2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119518

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PD PRIME2 POSITIVE FORMED WITH 5,(2, THIAZOLYLAZO),2,6,DIHYDROXYPYRIDINE (I) TWO VIOLET 1 TO 1 COMPDS. WHICH WERE SOL. IN 4 TO 1 H SUB2 O,DIMETHYLFORMAMIDE. THE 1ST COMPD, WAS FORMED AT PH 3-7 (MAX. AT 560 NM; MOLAR ABSORPTIVITY (EPSILON) EQUALS 1.31 TIMES 10 PRIME4) AND THE 2ND IN 0.1-4.0 N H SUB2 SO SUB4 (MAX. AT 570 NM; EPSILON EQUALS 2.24 TIMES 10 NEGATIVE PRIME4). PD PRIME2 POSITIVE (10-90 MU G) WAS DETD. IN THE PRESENCE OF FE PRIME2 POSITIVE, FE PRIME3 POSITIVE, CO PRIME2 POSITIVE, NI PRIME2 POSITIVE, ZN PRIME2 POSITIVE, MN PRIME2 POSITIVE, BA PRIME2 POSITIVE, IR PRIME4 POSITIVE, RH PRIME3 POSITIVE, PT PRIME4 POSITIVE, OS PRIME4 POSITIVE, CU PRIME2 POSITIVE, AL PRIME3 POSITIVE, AND AG PRIME POSITIVE. TREAT THE H SUB2 O, DIMETHYLFORMAMIDE SOLN. CONTG. SIMILAR TO 25 MU G PD PRIME2 POSITIVE WITH H SUB2 SO SUB4 TO 1N IN H SUB2 SO SUB4 AND ADD L ML 0.012PERCENT I SOLN. IN ETOH. EXT. THE SOLN. WITH 10 ML N,AMYL ALC. AND MEASURE THE COLOR OF THE ORG. PHASE IN A 1 CM CELL AT 570 NM (EPSILON EQUALS 1.92 TIMES 10 PRIME4). THE ERRUR DEPENDED ON THE AMTS. OF OTHER IONS PRESENT AND WAS PLUS 1.2PERCENT TO MINUS 24.0PERCENT.

UNCLASSIFIED

USSR

UDC 621.375.8

BUSHAK, B. A., MIKHNOV, S. A., RUBINOV, A. N.

"Frequency-Tunable Dye Laser with Double Light Pulse Pumping" (Brief Communication)

Minsk, Zhurnal Prikladnoy Spektroskopii (Journal of Applied Spectroscopy), Vol 15, No 4, Oct 71, pp 732-734

Abstract: The laser studied had a rhodamine solution in a double walled quartz tube. The diameters of the vessel were 3 and 10 mm. An aqueous solution of sodium nitrite was pumped through the outer tube to serve as a coolant and to filter out the ultraviolet from the pumping light. During operation, the filter protected the active solution, which was pumped through the inner tube at the rate of 4 m/sec. The electrical circuit is shown in a figure. The first pulse ignites the lamps, and the second, shifted by 40 to 90 microsec, triggers the discharge from a capacitor bank.

A Fabry-Perot interferometer in the resonator or a diffraction grating in place of one of the mirrors narrows the emission band and can be used to tune the output frequency. Turning the interferometer varies the output smoothly from 599 to 579 nm for any

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USSR

BUSHAK, B. A. et al, Zhurnal Prikladnoy Spektroskopii, Vol 15, No 4, Oct 71, pp 732-734

pulse repetition frequency up to 30 Hertz, the upper limit of the experimental circuitry.

Experiments at 10 to 15 Hertz showed that beam divergence does not exceed 2 X 10^{-3} rad. The interferometer has no effect when tuned to the peak emission, but tuning to one side or the other increases the generation threshold and decreases the divergence of the beam.

Orig. art. has 3 figs. and 2 refs.

2/2

USSR UDC 621.43

BUSHANSKAYA, L. I., Candidate of Technical Sciences, and
BARAKAN, G. H., Engineer

"Results of the Experimental Investigation of the Characteristics of Free-Moving Piston Gas Generators Under Transitional Operating Conditions"
(Article presented by Doctor of Technical Sciences A. S. Orlin, Professor at the Moscow Higher Technical School imeni N. E. Bauman)

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy. Mashinostroyeniye, No 3, 1972, pp 91—96

Abstract: Results of an experimental investigation of the performance of a free-moving piston gas generator (FMPGG) in transitional processes are analyzed with a view to velue its dynamic properties. The process in the bounce cylinder and the main characteristics of the transitional process by throwing on and throwing down the load within the power interval controlled by means of changing the fuel supply are discussed by reference to diagrams.
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USSR

BUSHANSKAYA, L. I., Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 3, 1972, pp 91-96

The effects of quick-acting of the stabilizer and the capacity of the exhaust system on the generator response are rated. The formula for determining the capacity of the bounce hollow by different piston positions of the FMPGG model has been specified. The following were found to represent efficient means to improve the characteristics of the FMPGG transitional process: the most possible capacity decrease of gas communications; the use of control facilities of the turbine input-output characteristic during load shifting; the use of an additional filling control of the bounce cylinder in transitional processes. Three illustr., two biblio. refs.

2/2

USSR

BUSHE, N. A., Editor

"Increasing the Durability of Products of Nonferrous Metal Alloys"

Povysheniye Dolgovechnosti Izdeliy iz Splavov Tsvetnykh Metallov [English Version Above], Moscow, Transport Press, 1972, 112 pages.

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USSR

BUSHE, N. A., Povysheniye Dolgovechnosti Izdeliy iz Splavov Tsvetnykh Metallov, Moscow, Transport Press, 1972, 112 pages.

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A. A. Portselan, V. Ya. Berent, Relationship of Values of Mechanical Properties to Electrical Conductivity of Contact Wires 71

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USSR

BUSHE, N. A., Povysheniye Dolgovechnosti Izdeliy iz Splavov Tsvetnykh Metallov, Moscow, Transport Press, 1972, 112 pages.

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A. Ya. Yegorov, Study of the Process of Friction of Brushes Over a Collector 106

Acc. Nr: AP0043693 BUSHEV MK Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 3, pp 996-1001

THERMAL CAPACITY OF SPIN WAVES IN A DOMAIN BLOCH WALL

Bushev, M. K.

A macroscopic derivation of the spin wave spectrum in a 180 degree Bloch wall is presented. The thermal capacity of the waves is found and it is shown that it is dominant at temperatures below a certain value T_0, which is proportional to the equilibrium magnetization and for uniaxial ferrites is of the order of 1° K. It is shown that it should be possible to obtain information on magnetization of ferrites by measuring their thermal capacity as a function of temperature.

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USSR

UDC: 535.343.1:535.31

NEKRASHEVICH, I. G. and BUSHIK, A. I.

"Measuring the Radiation of an Electrical Discharge Plasma"

Minsk, Zhurnal Prikladnoy Spektroskopii, No 2, 1973, pp 190-193

Abstract: The purpose of this experimental paper is to investigate the form and dimensions of the space occupied by a plasma cloud produced by an electrical discharge between two electrodes in a measuring device. The device is photoelectrical, consisting of an optical system with a magnification of 120X, a monochromator, a photomultiplier, and an oscillograph. The discharge is excited by a long line supplying a rectangular pulse of 180 μsec duration and a current amplitude of 1470 amp. The arrangement was such as to permit recording various parts of the plasma to obtain oscillograms of the spectral line of zinc ions, at 4924 Å. Light of constant intensity from an auxiliary virtual point source was used to determine the plasma shape and dimensions by shifting the source relative to the optical system focus so that the light from the source was incident on the monochromator slit and was recorded by the photomultiplier and oscillograph. The intensity of the light entering the monochromator is plotted against the position of the

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USSR

UDC: 535.343.1:535.31

NEKRASHEVICH, I. G., et al, Zhurnal Prikladnoy Spektroskopii, No 2, 1973, pp 190-193

point source relative to the focus. The results obtained can be used for interpreting experimental data in the investigation of electrical discharge plasmas by optical methods.

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1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--SKELETAL ISOMERIZATION DURING ISOPENTANE DEHYDROGENATION IN A FLUIDIZED BED OF K 5 CATALYST -U-

AUTHOR--MIKHAYLOV, R.K., BUSHIN, A.N., TYURYAYEV, I.YA., KHRIPINA, S.M.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1) 3-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FLUIDIZED BED, ISOMERIZATION, ISOPENTANCE, CATALYTIC DEHYDROGENERATION, PENTANE, PENTENE, CATALYST/(U)K5 CATALYST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1451 STEP NO--UR/0064/70/046/001/0003/0007

CIRC ACCESSION NO--AP0101537

UNCLASSIFIED

2/2 008 UNCLASSIFIED

CIRC ACCESSION NO--AP0101537 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEHYDROGENATION OF ISOPENTANE IN AN 8 SECTION FLUIDIZED BED APP. WIT K 5 CATALYST WAS CARRIED OUT AT LARGER THAN OR EQUAL TO 580DEGREES WITH FLOW RATE 120 VOLS.-HR. PRETREATMENT OF THE CATALYST BY HEATING TO 640 TO 500EGREES IN BUTANE OR "ABGAS" (70 VOL.PERCENT H SUB2, 2PERCENT CO, 13PERCENT N, BALANCE C SUB1- C SUB5 HYDROCARBONS) INCREASED THE YIELD OF ISOPENTENES, E.G. FROM 30 TO 35PERCENT AT 580DEGREES, AND ALSO INCREASE THE YIELD OF N,PENTENES FROM 3.5 TO 4.5PERCENT BUT HAD NO EFFECT ON THE YIELD OF PIPERYLENE (SIMILAR TO 1PERCENT). THE RATIO OF 1,PENTENE TO 2,PENTENE IN THE PRODUCT WAS 1:3 TO 5. SMALL AMTS. N,PENTANE WERE ALSO FORMED IN THE REACTION AND ADDN. OF 5 TO 7PERCENT N,PENTANE TO THE STARTING ISOPENTENE SUPPRESSED ALMOST COMPLETELY THE ISOMERIZATION OF THE ISOPENTENE, ALTHOUGH THE MECHANISM OF THIS EFFECT IS NOT CLEAR. THE RATIO OF 2,METHYL,2,BUTENE,2,METHYL,1,BUTENE,N,PENTENES IN THE PRODUCT (OBTAINED BY USING THE PRETREATED CATALYST) WAS 100:60:14:13.

UNCLASSIFIED

USSR

UDC (033.74) 669.14

VINOGRAD, M. I., KISELEVA, S. A., PAVPEROVA, I. A., APOLOVNIKOVA, L. G., KOLYASHIKOVA, R. I. and [redacted] E. G.

"New Standard for Metallographic Determination of Nonmetallic Inclusions in Steel"

Moscow, Standarty i kachestvo, No 2, Feb 72, pp 28-30

Abstract: Described is the newly announced GOST 1778-70 for the metallographic determination of impurities in metals replacing GOST 1778-62 which, in addition to other drawbacks, was inadequate to determine reliably the difference in the degree of contamination between individual heats. The need for the new standard has also been prompted by new steelmaking methods and high-purity requirements on top-grade metals. Compared to similar foreign standards, the new GOST 1778-70 features the following advantages: a scale providing strict classification of inclusions by composition and covering a wider variety, including nitrides; a ×200 magnification permitting more accurate rating of impurities in pure metal than the "IK" scale in the American ASTM E-45-63; an examination area of sections for the "Sh" method adopted as 400 ±50 mm^2 (the same area in ASTM E-45-63 is only 200 mm^2; the standard includes measuring and calculation systems (not available on foreign standards) some of which are suitable for determining impurities in both formed and cast metals;

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USSR

VINOGRAD, M. I., et al, Standarty i kachestvo, No 2, Feb 72, pp 28-30

detailed patterns for cutting test pieces for the greatest majority of metallurgical items (only a few are available on foreign standards). 2 tables, 6 bibliographic references)

2/2

USSR

UDC: 550.837

KULIKOV, A. V., SHEMYAKIN, Ye. A., BUSHINA, S. S., GORYUNOV, A. S., All-Union Scientific Research Institute of Geophysical Prospecting Methods

"A Method of Geoelectric Prospecting"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 2, Jan 72, Author's Certificate No 324601, Division G, Filed 29 Dec 70, published 23 Dec 71, pp 148-149

Translation: This Author's Certificate introduces a method of geoelectric prospecting using induced polarization by measuring the phase frequency characteristics of the overall electric field created by grounded sources of a harmonic polarizing field. As a distinguishing feature of the patent, the depth and resolution of the method are improved under the conditions of low-resistance geoelectric sections by measuring the phase characteristics with the supply and reception lines at acute and obtuse angles to one another. The angle between the lines is varied until the low-frequency part of the phase characteristic becomes dependent on this angle, and the presence of polarized objects is judged by the phase angles on the low frequency.

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1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--POROSITY OF COATINGS -U-

AUTHOR-(02)-BUSHINSKIY, I.M., KHONYAKOVA, F.T.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,970

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POROSITY, SILVER, HYDROGEN SULFIDE, SPECIALIZED COATING, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1083 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0116549

UNCLASSIFIED

2/2 022 UNCLASSIFIED

CIRC ACCESSION NO--AA0116549 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COATING POROSITY IS STUDIED BY SUCCESSIVELY APPLYING AN AG LAYER AND LAYER OF THE COATING BEING STUDIED ON A TRANSPARENT BASE. THE BASE IS THEN MOVED INTO A MEDIUM THAT REACTS WITH AG, E.G. H SUB2 S, AND THE COATING POROSITY IS EVALUATED VISUALLY.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SOLUBILITY OF ACETYLENIC HYDROCARBONS IN THE N,N,N',N' TETRAETHYL GLUTARAMIDE -U-

AUTHOR-(02)-FREYDLIN, G.N., BUSHINSKIY, V.I.

B

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2) 385-91

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE HYDROCARBON, AMIDE, SOLUBILITY, PRESSURE EFFECT, ENTHALPY, ENTROPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0336 STEP NO--UR/0080/70/043/002/0385/0391

CIRC ACCESSION NO--AP0103991

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103991

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF C SUB2 H SUB2 (I), METHYLACETYLENE (II), CH SUB2: CHC:CH (III), HC:CC:CH (IV), AND CO SUB2 IN DRY AND WET N,N,N',N' TETRAETHYL GLUTARAMIDE (V) WAS STUDIED AT 20 TO 50DEGREES AND VARIOUS PRESSURES. THE SOLY. OF THESE HYDROCARBONS INCREASES WITH THEIR MOL. WT. DEVIATIONS FROM THE HENRY LAW WERE OBSERVED AT LOW PRESSURES. THE SOLY. DECREASES WITH INCREASING WATER CONTENT. THE DATA FOLLOW THE KRICHEVSKI EQUATION LN(P SUB2-N SUB2) EQUALS LN K MINUS BETA(1-N SUB1 PRIME2). WHERE P SUB2 IS THE EQUIL. PRESSURE, N SUB2 THE MOLE FRACTION OF GAS IN SOLN., N SUB1 THE MOLE FRACTION OF SOLVENT IN THE LIQ. PHASE, K THE HENRY COEFF., AND BETA A CONST. CONSTS. K AND BETA AND THE ENTHALPY AND THE ENTROPY OF MIXING ARE TABULATED. THE SOLY. OF THESE COMPDS. IN V IS BETTER THAN THAT IN L,VINYL,PYRROLIDONE, SO THAT V IS RECOMMENDED AS A SOLVENT FOR THE SEPN. OF THE PRODUCTS IN C SUB2 H SUB2 PRODUCTION.

UNCLASSIFIED

AA0052666

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, /-70

241390 SPRING FORMING MACHINE for serpent like springs can be easily reset for different sizes and types. The discs 4 with radical slots are mounted on parallel shafts 1 and 2 which rotates in bearings, mounted in the body of the machine 3. The studs 5 with rollers 6 aresecured in the disc slots. Shaft 1 is coupled to a reducer 8 and motor 9. Equal size gears 7 are fitted to shafts. End of the strip 10 is fixed around one of the rollers 6. The discs are rotated in the opposite directions. The strip is tensioned (11) and formed into loops. The size of loops and the pitch of spring can be regulated by moving the rollers in slots.

19.7.66. as 1092020/25-27, CHERNYCH, V.P. and BUSHMAKIN, A.N. Bereznytovsky Ti-Mg Plant. (1.9.69) Bul. 14/18.4.69. Class 7d, Int. Cl. B 21f.

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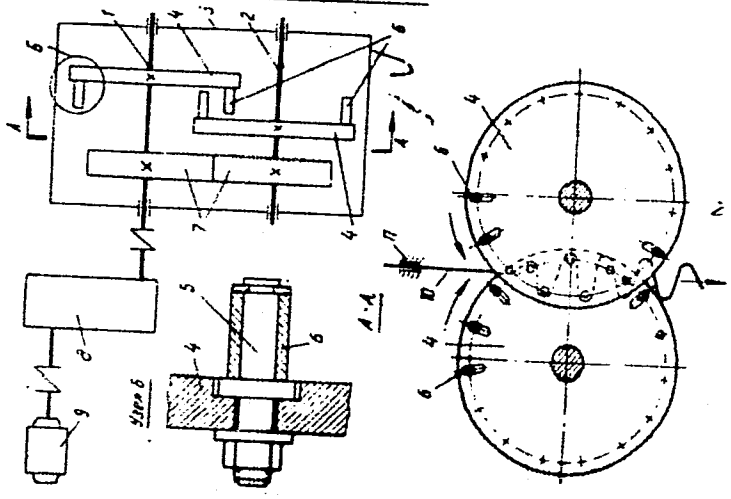
1982141?

18

AA0052666

Chernykh, V. P.; Bushmakin, A. N.
Bereznikovskiy Titano-Magniyevyy Kombinat



19821418

USSR

UDC 535.36

BUSHMAKOVA, O. V., ZEGE, E. P., and KATSEV, I. L.

"Asymptotic Formulas for the Brightness Coefficients of Thick Layers of a Dispersive Medium"

Minsk, Doklady Akademii Nauk BSSR, Vol 15, No 4, 1971, pp 309-311

Abstract: This article concerns recent work done on the problem of obtaining brightness coefficients for thick layers of a dispersive medium with an arbitrary indicatrix of dispersion. The authors cite G. V. Rozenberg's approximation formulas, which apply to low-absorption media and which have been used extensively to solve geophysical and spectroscopic problems. They explain the ways in which these formulas are related to the formulas developed by V. V. Sobolev for brightness coefficients which have been averaged with respect to the azimuth and which apply to the case of arbitrary absorption. They show that the two sets of formulas coincide to a specified degree of accuracy when $\int_0^1 M^2 g(M) d\mu = 1/3$ (M is the cosine of the angle of dispersion of g(M) is the angular distribution of the brightness of the light which has passed through a purely dispersive layer). This condition is fulfilled quite well for a broad class of indicatrixes.
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Aeronautical and Space

USSR UDC 532.525.2.001.5

BUSHMARIN, O. N., SUKACHEV, A. M., YAKOVENKO, V. V.

"Experimental Study of a Twisted Jet Emanating from an Annular Slot at the Base of a Semiinfinite Cylinder"

Trudy Leningradskogo Politekhnicheskogo Instituta, Aerotermodinamika (Works of the Leningrad Polytechnical Institute, Aerothermodynamics), No 313, 1970, pp 143-148

Translation: This article contains a study of the effects of spreading out of a twisted annular jet emanating from a circular nozzle located in the plane at the base of a circular cylinder.

The velocity and pressure fields are measured. The conditions under which spreading out of the jet takes place for various twisting devices are analyzed. There are 2 tables and 4 illustrations.

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USSR

UDC 669.187.26

BUSHMELEV, V. M., TYURIN, YE. I., DUMCHEV, YA. P., KATAYEV, V. M., VOLKOV, S. YE., PUPYNINA, S. M., SHARAPOV, A. A., BAGLAY, V. M., MEDOVAR, B. I., LATASH, YU. V., Krasnyy Oktyabr' Plant, Central Scientific Research Institute of Ferrous Metallurgy and Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Production of 4-Ton Ingots in a Bifilar Electroslag Remelting Furnace"

Moscow, Stal', No 3, Mar 70, pp 236-238

Abstract: The article describes a bifilar electroslag remelting scheme developed at the Institute of Electric Welding imeni Ye. O. Paton, which provides for the melting in one crystallizer of two electrodes, isolated from each other, which are attached to one electrode holder and connected to the ends of the secondary winding of a single-phase transformer with the same power as in a single-electrode furnace. In order to obtain rectangular 640X460 ingots weighing 4 tons, one of the electroslag remelting furnaces of the Krasnyy Oktyabr' Plant, designed for

USSR

BUSHMELEV, V. M., et al, Stal', No 3, Mar 70, pp 236-238

the production of 2-ton ingots according to the single-electrode scheme and equipped with a single-phase 1000-kva transformer, was remodeled for melting according to the bifilar scheme. Only the mechanical part of the furnace underwent alteration. Slag systems used for the melting included CaF_2-Al_2O_3, CaF_2-CaF_2-CaO-Al_2O_3, and CaF_2-CaO-Al_2O_3-MgO. It was found that the production of metal of satisfactory quality in the bifilar furnace requires the same degree of submersion of the electrodes in the slag bath, as well as keeping the electrode spacing unchanged during the melting. This was accomplished with the use of simple devices. The bifilar scheme approximately doubles furnace productivity and reduces electric energy consumption by 25-29 percent. Data are presented on the quality of 4-ton ingots of ball-bearing steel ShKh 15, structural steel 40KhNMA and stainless sheet steels 10Kh12NVMFA (EI962) and Kh23N18 obtained on the bifilar furnace.

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USSR UDC 669.187.26

BUSHMELEV, V. M., TYURIN, YE. I., DUMCHEV, YA. P., KAMAYEV, V. M., VOLKOV, S. YE., PUPYNINA, S. M., SHARAPOV, A. A., BAGLAY, V. M., MEDOVAR, B. I., LATASH, YU. V., Krasnyy Oktyabr' Plant, Central Scientific Research Institute of Ferrous Metallurgy and Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

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USSR

BUSHMELEV, V. M., et al, Stal', No 3, Mar 70, pp 236-238

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USSR

UDC: 537.311.33:621.362.2

DIDENKO, B. N., BUSHMIN, A. P.

"Thermoelectric Properties of Thin Films of Manganin and Constantan"

Tr. Kubansk. s.-kh. in-ta (Works of the Kuban Agricultural Institute), 1968, vyp. 24(52), pp 292-296 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 70, Abstract No 4A115)

Translation: An investigation is made into the electric and thermoelectric properties of thin films of manganin and constantan, as well as the effect which film thickness has on these properties. The films were produced by the method of precipitation in a vacuum of $5 \cdot 10^{-5}$ mm Hg on glass substrates. An increase in film thickness from 300 to 600 Å led to a change in resistivity from 16.8 to 0.96 $\Omega \cdot mm^2/m$ for manganin, and from 19.2 to 1.44 for constantan. The resistance of massive specimens is 0.48 and 0.49 respectively. A thermoelectromotive force arises in a manganin-constantan film pair, and decreases in value as the thickness of the films decreases. Two illustrations, bibliography of six titles. A. Kh. Cherkasskiy.

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USSR

UDC: 533.6.011.8

BUSHMIN, A. S., YEFIMOV, B. G.

"Experimental Study of Nonequilibrium Gas Flow Excited by a High-Frequency Discharge"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of Central Aerohydrodynamics Institute), 1971, 2, No 6, pp 112-115 (from RZh-Mekhanika, No 5, May 72, Abstract No 5B296)

Translation: The paper is a report on the results of experimental studies of supersonic flow of a rarefied gas in a vacuum wind tunnel with a high-frequency heater. The principal elements of the experimental set-up used were: a high-frequency generator with a frequency of $4 \cdot 10^7$ Hz, a water-cooled quartz discharge chamber with inside diameter of 40 mm, an inductor, and an Eifel chamber with vacuum system. The working gas (air) was accelerated in a shortened underexpanded nozzle with critical cross sectional diameter of 4 mm up to a Mach number M = 1. The gas is further accelerated in the vacuum chamber in the jet beyond the nozzle. The gas pressure and temperature in the discharge chamber were 225 mm Hg ($3 \cdot 10^4$ N·m^{-2}) and 900 kelvins respectively, and the pressure in the vacuum chamber was 10^{-2} mm Hg

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BUSHMIN, A. S., YEFIMOV, B. G., Uch. zap. Tsentr. aerogidrodinam. in-ta, 1971, 2, No 6, pp 112-115

(1.33 $N \cdot m^{-2}$). The gas was analyzed both spectrographically and by means of heat-sensitive pickups both in the discharge chamber and in the supersonic flow.

It was found that the composition of the air heated by a high-frequency discharge in the prechamber differs from the equilibrium composition. In the discharge chamber are molecules of nitrogen in the excited electron--oscillatory state, as well as excited atoms of oxygen. An estimate of the oscillatory temperature in the S^3P state gives a value of ~3000 K. It is shown that in the jet beyond the nozzle, the molecules remain in the state of electron-oscillatory excitation to a distance of up to ~60 mm from the nozzle. A graph is given for the reduction in oscillatory temperature with distance from the nozzle. The relaxation time of molecules in the electron--excited state is $\sim 10^{-4}$ s, which is considerably less than the value given in the literature for the time of oscillatory relaxation of molecules in the ground electron state. It is found that thermal fluxes to heat-sensitive elements with catalytic surface is approximately 30% higher than to elements with noncatalytic surface. Bibliography of 9 titles. O. K. Rozanov.

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USSR UDC: 621.372.832

BUSHMINSKIY, I. P. and LUKIN, K. B.

"Effect on the Coupling of Band Systems Made by Depositing Fine Dielectric Films"

Moscow, Radiotekhnika, No 9, 1972, pp 106-107

Abstract: Various methods of manufacturing band or ribbon line systems used at present have the defect of complicating the process of obtaining small gaps between the conductors for high stability and relatively long-range extension. The authors propose another method for obtaining such gaps that would be very small functionally. This method involves a process of sputtering in a vacuum in which a fine dielectric film with high permeability is deposited on the line in the region of the industrially feasible gap. The process is briefly described, and experiments designed to investigate the change in characteristics of the gap in a band directional coupler with electromagnetic transference, and to measure the transient attenuation and direction before and after the deposition of the film, are sketched. A diagram of the directional coupler is reproduced together with characteristic curves for the film permeability as a function of the wavelength, and for the transient attenuation of

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USSR UDC: 621.372.832

BUSHMINSKIY, I. P., et al, Radiotekhnika, No 9, 1972, pp 106-107

the directional coupler as a function of the frequency before and after deposition of the film on the ribbon. It is noted that the proposed method broadens the technical possibilities of production and permits structural variations hitherto unacceptable.

USSR UDC 533.9+541.1

BUSHMIN, A. S., DMITRIYEV, L. M., Moscow

"Experimental Determination of the Vibrational Temperature of a Supersonic Gas Flow"

Moscow, Teplofizika vysokikh temperatur, No. 3, May/Jun 72, pp 499-502

Abstract: An experimental study of the vibrational temperature of air molecules in the nonequilibrium supersonic gas flow of a device with an electric arc heater is described. It is noted that high-speed processes in gases, such as the propagation of strong shock waves and the supersonic expansion of a jet are accompanied by a breakdown in thermodynamic equilibrium, and that inside the corresponding groups of degrees of freedom of the molecules there occurs a Boltzmann energy distribution characterized by the kinetic, rotational and vibrational temperatures; the equilibrium correspondence between these temperatures could not be established, however. Theoretical calculations of the vibrational temperature are difficult in this case due to the absence of reliable data on the deactivation time. It was shown previously that deactivation times of vibrational degrees of freedom in an expanding supersonic flow can be one or two orders of magnitude less than the relaxation time of vibrations under excitation

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520001-9"

USSR

BUSHMIN, A. S., DMITRIYEV, L. M., Teplofizika vysokikh temperatur, No. 3, May/Jun 72, pp 499-502

behind shock waves due to the presence in the flow of admixtures of chemically nonequilibrium components which catalyze the deactivation processes. The vibrational temperature was measured on the basis of the radiation spectrum of a sodium additive. A sodium additive introduced into a supersonic gas flow ($M = 8$) through a prechamber was in an excited state ($T_{ex} \sim 1500°K$) at the static gas temperature ($T_{st} \sim 300°K$). Analysis of possible excitation and quenching processes for the sodium atoms showed that the excitation temperature is no more than 15% below the quenched vibrational temperature. It is noted that the application of this method of measurement requires careful analysis of the sodium excitation processes. Analysis of energy balance equations for molecule vibrations showed that only vibrational energy transfer to translational degrees of freedom of the molecules and atoms are essential for relaxation of vibrations. Thus the excitation temperature for atoms of the alkali metal additive in a supersonic flow in a device with an electric arc heater for the gas can be identified with the vibrational temperature T_{vib} with a correction of a magnitude depending on the specific experimental conditions. Analysis showed that values of T_{vib} are less than those calculated under the assumption that the deactivation times are equal to relaxation times measured behind the shock wave by a magnitude considerably exceeding the correction.

USSR UDC 629.78.015:533.95

BUSHMIN, A. S., YEFIMOV, B. G.

"Experimental Study of Non-equilibrium Flow of a Gas Excited by a High Frequency Discharge"

Uch. zap. Tsentr. Aero-gidrodinam. Inta [Scientific Writings of Central Aero-Hydrodynamics Institute], Vol 2, No 6, 1971, pp 112-115, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 4, 1972, Abstract No 4.41.159 from the Resume).

Translation: Results are presented from experimental studies of supersonic flow of a rarefied gas in a vacuum wind tunnel with an HF heater. The spectral composition of the gas in the discharge chamber and in the stream beyond the nozzle, change in oscillating temperature in the $C^3\Pi$ state with increasing distance from the nozzle cross section, dependence of heat flux to model on degree of catalytic activity of the surface are shown. 4 Figures; 9 Biblio. Refs.

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Super alloys

USSR

UDC 669.25:539.292

TSINENKO, O. V., PSHENINA, L. S., TYUMENTSEV, A. N., BUSHNEV, L. S., and KOROTAYEV, A. D., Siberian Physico-Technical Institute imeni V. D. Kuznetsov

"Features of Discontinuous Decomposition in Co-Ni-Ti Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 32, No 1, Jul 71, pp 58-64

Abstract: From data obtained by conventional and electron microscopy and x-ray analysis of aging, discontinuous decomposition in a Co-Ni-Ti alloy was studied where it was shown that by means of discontinuous decomposition there occurs precipitation of the same ordered gamma-prime phase which is a case of continuous decomposition. Kinetics of discontinuous decomposition depend substantially on the state of the continuous decomposition of the matrix ahead of the front of the growing cell. It was shown that coalescence of the finely dispersed phase after continuous and discontinuous decomposition occurs as a result of secondary discontinuous decomposition so that by means of discontinuous decomposition there occurs not only precipitation of stable and metastable phases but also their coalescence. Five figures, 22 bibliographic references.

USSR UDC: 669.25:539.425

TSINENKO, O. V., TYUMENTSEV, A. N., BUSHNEV, L. S. and KOROTAYEV, A. D., Siberian Physicotechnical Institute imeni V. D. Kuznetsov

"Study of a Modulated Structure in Co-Ni-Ti Alloys"

Sverdlovsk, Fizika metallov i metallovedeniye, Vol 32, No 4, Oct 71, pp 758-766

Abstract: The initiation of a modulated structure during the decay of Alnico-, Ticonal- and Nimonic-type alloys determines the shaping of their high physical, mechanical and high-temperature properties governing extensive utilization of these alloys. Some of the properties are related to the finely disperse segregations of the nonmetallic phase. Discussed here are measurements of the kinetic of changes in resistivity, x-ray and electron microscopic patterns (both of replicas and thin foils) applied to the study of the decay pattern of Co-Ni-Ti alloys I comprising 54% Co + 42% Ni + 4% Ti and II -- 53% Co + 40% Ni + 7% Ti, wt. %. The alloys with various Ti contents were selected to determine the effect of the bulk share of finely disperse segregations on the development of a modulated structure at various temperatures. The kinetics of changes in resistivity

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TSINENKO, O. V., et al, Fizika metallov i metallovedeniye, Vol 32, No 4, Oct 71, pp 758-766

during aging of Co-Ni-Ti alloys following quenching from 1050°C and the structural patterns at various stages of decay are reflected in curves and radiographs. The early stages of aging reveal a zone-type decay. The coagulation of particles of the new phase results in the development of a three-dimensional periodic modulated structure. The modulation periods at different temperatures are measured. It is shown that the particles of the new phase represent an ordered phase of Co_3Ti. (6 illustrations, 28 bibliographic references).

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1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--INTERMITTENT DECOMPOSITION IN HARDENED AND DEFORMED ALLOYS -U-

AUTHOR-(05)-KOROTAYEV, A.D., BUSHNEV, L.S., PROTASOV, A.T., TYUMENTSEV, A.N., PSHENINA, L.S.
COUNTRY OF INFO--USSR

B

SOURCE--IZV. VYSSH. UCHEB. ZAVED. FIZ. 1970, 13(1), 108-12

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CRYSTALLIZATION, COPPER ALLOY, TITANIUM ALLOY, ELECTRON MICROSCOPY, METAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0960 STEP NO--UR/0139/70/013/001/0108/0112

CIRC ACCESSION NO--AT0105829
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AT0105829
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECIMENS OF CU-TI 4.3PERCENT ALLOY WERE HARDENED, DEFORMED, AND THEN STUDIED BY METALLOGRAPHY AND ELECTRON MICROSCOPY. WITH SMALL DEFORMATION DEGREES (LESS THAN OR EQUAL TO 20PERCENT) THE FORMATION OF AN INTERNAL STABLE PHASE WAS NOT OBSD. SINCE THIS FORMATION USUALLY IS PRECEDED BY RECRYSTN., IT WAS ASSUMED THAT THE RECRYSTN. CAUSED DISCONTINUOUS DECOMPN. INSIDE OF GRAINS. AT THE DEFORMATION DEGREE OF 20PERCENT THE DISCONTINUOUS DECOMPN. SHOULD BE EXPECTED AT GREATER THAN OR EQUAL TO 450DEGREES; IN ACTUAL EXPTS. THIS DECOMPN. WAS OBSD. AT 550DEGREES.

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--DISLOCATION STRUCTURE AND MECHANICAL TWINNING IN AGED COPPER,TITANIUM AND COPPER,TITANIUM, ALUMINUM ALLOYS -U-

AUTHOR--PROTASOV, A.T., BUSHNEV, L.S., KOROTAYEV, A.D.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1), 192-6

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--TWINNING, CRYSTAL DISLOCATION, COPPER ALLOY, ALUMINUM ALLOY, TITANIUM ALLOY, ELECTRON MICROSCOPY, X RAY DIFFRACTION, METAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0659 STEP NO--UR/0126/70/029/001/0192/0196

CIRC ACCESSION NO--AP0105638

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105638

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISLOCATION STRUCTURE AND MECH. TWINNING IN QUENCHED AND AGED CU PLUS 4.3PERCENT TI AND CU PLUS 2.3PERCENT TI PLUS 2PERCENT AL ALLOYS WERE STUDIED BY THIN FILM ELECTRON MICROSCOPY. THE CHARACTERISTIC FEATURE OF THE DISLOCATION STRUCTURE OF QUENCHED ALLOYS IS THE PRESENCE OF FLAT DISLOCATION CLUSTERS. THESE SHOWED UP TO A LESSER DEGREE IN THE TERNARY ALLOYS THAN IN THE CU-TI ALLOYS. THE BROAD TWIN INTERLAYERS AS OBSD. THROUGH METALLOGRAPHY ARE INDEED MICROTWIN BUNDLES WHICH HAVE A RATHER PERFECT STRUCTURE. MECH. TWINNING WAS OBSD. BOTH AT THE STAGE CORRESPONDING TO THE APPEARANCE OF THE SATELLITES ON X RAY DIFFRACTION PATTERNS AND ON THE STAGE OF THE DEVELOPMENT OF THE METASTABLE BETA PRIME PHASE. THE RESULTS OBTAINED DO NOT ALLOW THE CONCLUSION TO BE MADE THAT THE PPTS. ARE NOT BEING SLIT THROUGH BY THE DISLOCATIONS; THIS FACT IS CONFIRMED ALSO BY THE FACT THAT MECH. TWINS ALSO PASS THROUGH THE PPTS. THE PPTN. OF THE METASTABLE PHASE FIRST LEADS TO SLIP HOMOGENIZATION, AND SECONDLY, DETS. THE APPEARANCE OF A NEW DEFORMATION MECHANISM, NAMELY MECH. TWINNING. IN THE CU PLUS 2.3PERCENT TI PLUS 5PERCENT AL ALLOY, NUCLEATION OF THE STABLE PHASE ON THE DISLOCATIONS WAS OBSD. THE PRESENCE OF THE LATTER LEADS TO THE FORMATION OF A DISLOCATION STRUCTURE CHARACTERIZED BY UNIFORM DISTRIBUTION OF THE DISLOCATIONS THROUGH THE BULK OF THE MATERIAL. THE OBSD. CHANGES DUE TO THE AGING PROCESS ARE ASSOCD. NOT ONLY WITH THE CHANGE IN THE LOCALIZATION AND MULTIPLICITY OF SLIP BUT ALSO WITH A CHANGE IN THE FREE PATH OF THE DISLOCATIONS.

UNCLASSIFIED

USSR UDC 539.1.074.3

BORISOV, A. A., BUGORSKIY, A. P., BUSHNIN, Yu. A., DEREVSHCHIKOV, A. A., DUNAYTSEV, A. F., ZHIL'CHENKOV, V. D., MATULENKO, Yu. A., MESHCHANIN, A. P., MIKHAYLOV, Yu. V., NURUSHEV, S. B., SEN'KO, V. A., SMIRNOV, V. V., SMIRNOV, Ye. V., SISKIN, V. V., SOLOV'YEV, L. F., and SOLOV'YANOV, V. L., Institute of High-Energy Physics, Serpukhov

"A Hodoscopic Installation for Investigation of the Elastic Scattering of High-Energy Particles"

Moscow, Pribory i Tekhnika Eksperimenta, No 3, May/Jun 73, pp 49-53

Abstract: A description is given of a hodoscopic installation, developed at the Institute of High-Energy Physics, for investigation of the elastic scattering of high-energy particles within the pulse range of 30-60 gigaelectron volts/sec. The range of dispersion angles covered by the installation is 0-29 millirads with an angular resolution of $\pm$ 0.17 millirad. The total solid angle is 39 microsteres. The pulse is determined to within $\pm$ 0.22%. The resolving time is 35 nanosec. The dead time is 50 microsec. The pulse pass band of the spectrometer is 8%. The statistics-setup is up to 10^6 per hour. The installation is electrically coupled to a "Minsk-22" computer, which stores and processes the information during the experiment. The

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520001-9"

USSR

BORISOV, A. A., et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 73, pp 49-53

obtained results are immediately printed out in the form of tables and graphs, and also appear on the oscillograph screen. Monitoring equipment has been developed, which keeps track of proper operation of the hodoscopes. The first results have been obtained on the scattering of π^--mesons on nuclei at a pulse of 50 gigaelectron volts/sec and of protons within the initial-pulse range of 30-60 gigaelectron volts/sec. 3 figures. 2 tables. 3 references.

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--STABILITY OF CYLINDRICAL ORTHOTROPIC SHELLS WITH CLAMPED EDGES -U-

AUTHOR--BUSHTYRKOV, A.A.

B

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA TVERDOGO TELA, JAN.-FEB. 1970, P 141-45
DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CYLINDRIC SHELL STRUCTURE, STRUCTURE STABILITY, CLASTIC WAVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0174 STEP NO--UR/0484/70/000/000/0141/0145

CIRC ACCESSION NO--AP0054970
UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054970

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF CLAMPING THE EDGES OF A CYLINDRICAL ORTHOTROPIC SHELL ON THE CRITICAL PARAMETERS OF SUCH A SHELL, USING THE METHOD OF UNDETERMINED LAGRANGE MULTIPLIERS. IT IS FOUND THAT CLAMPING THE EDGES OF THIS SHELL LEADS TO AN INCREASE IN THE NUMBER OF WAVES IN COMPARISON WITH THE CASE OF A HINGE SUPPORTED SHELL. IT IS SHOWN THAT DURING AXIAL COMPRESSION THE EFFECT OF CLAMPING BECOMES SIGNIFICANT ONLY IN THE CASE OF VERY SHORT SHELLS, WHEN A SINGLE HALF WAVE FORMS IN THE AXIAL DIRECTION UPON STABILITY LOSS.

UNCLASSIFIED

USSR

UDC 614.72

BUSHTUYEVA, K. A., Department of Communal Hygiene, Central Institute for the Advanced Training of Physicians, Moscow

"Atmospheric Pollution and Health"

Moscow, Gigiyena i Sanitariya, Vol 3, Mar 71, pp 3-7

Abstract: The growing population density, urbanization, and industrialization as well as the ensuing air pollution have given rise to various chronic diseases, including psychic disorders and accident trauma. Though statistical material available (summarized in tables and graphs) points out this correlation, the exact etiology of these diseases is unknown. Moreover, morbidity and mortality represent the terminal stages of this process. However, the objective of hygiene is to detect and elucidate the initial manifestations of the deleterious effects exerted by air pollutants, if the final goal is to be prevention of these diseases. It is hoped that the results of the biochemical studies which are now being conducted on a large scale in USSR's childrens' collectives will facilitate resolving the problem in the long run, For the time being, the objective of these studies is to elucidate the biological significance of the observed biochemical changes in the maintenance of health and causation of diseases.

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USSR UDC 621.375.82

BUShUK, B. A., RUBINOV, A.N., and SMOL'SKAYa, P. I.

"The Effect of Thermal Optical Distortions on the Radiation Spectrum of a Rhodamine 6-G Laser with Noncoherent Pumping"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol. 17, No. 6, Dec 72, pp 1112-1114

Abstract: When a liquid dye laser is pumped with noncoherent light, there is inevitably a nonuniform distribution of the index of refraction in the liquid. In a cylindrical tank, the optimum lasing conditions occur near the surface, where the greatest change in the index of refraction is found. This results in a characteristic cross section of the generated laser beam, with a center spot and a peripheral ring. The radiation from the ring is significantly more scattered than that in the central spot. It is evident that the coefficient of amplification in the lasing process is greater at the periphery, and since there is usually a change in spectral peak with variation in efficiency, the authors compared the spectra of the central spot and the peripheral ring.

Spectrographic observation shows that the radiation in the center spot is broken into sharp lines as a result of interference during multiple reflections. The peripheral radiation includes this component, but has a continuous component

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BUShUK, B. A. et alia, Minsk, Zhurnal Prikladnoy Spektroskopii, Vol. 17, No 6, Dec 72, pp 1112-1114

consisting of shorter waves than the discontinuous segment. It is postulated that the peripheral zone does not generate laser radiation but simply amplifies that which originates in the center and is diffused to the periphery; differential scattering of short waves and higher amplification at the periphery results in a structure with the spectral peak of the central spot on the long-wave side of the primary peak. The continuous section results from the amplification of luminescences developed in the maximum of the spectral band, and its continuous character is due to the wide-angle nature of these luminescences. By screening the central portion to prevent it from prematurely discharging the peripheral areas, one can develop independent peripheral lasing; the resulting spectrum is in the same region as the continuous spectrum of the previous experiment but has the lined interference structure expected in true lasing. Analysis of the shift between the two lasing spectra indicates a difference in thermal optical losses between the periphery and the center of 0.02 cc^{-1}.

2/2

USSR

UDC: 621.039.524.034.3

BUSHUYEV, A. V., VORTSOV, V. G., and DUVANOV, V. M.

"Study of a Field of Fast Neutrons in the Shell of a Uranium-Graphite Reactor with a Rhodium Threshold Detector"

Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, p 420

Abstract: This work describes the apparatus and methods used for measurements with a rhodium detector. It is shown that in certain cases the use of cadmium to suppress the background of thermal neutrons leads to errors. The experiments were performed in a graphite pile with nine rods of natural uranium. Experiments were performed in a dry cell and in a cell with 2- and 11-mm water layers around the fuel elements. The method of effective threshold sections was used to determine the effective reaction threshold, 0.72 MeV, and the effective cross section, 0.68 barns, with an uncertainty of about 1%. The 11 mm water film decreases the fast neutron flux by 9.5± 1.5%, leaving the distribution in space almost unchanged. The calculated ratio of fast neutron flux to thermal neutron flux with the 11-mm water shield was 8.5% less than the similar ratio for the dry cell.

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AM0037796 NUCLEAR SCI. ABST./-70 B WR0000

1682 (CERN-Trans-69-13) BIOLOGICAL SHIELDING AND TECHNIQUE OF RAPID EJECTION AT 70 GeV. Britvich, G. I.; Golovachik, V. T.; Krupnyi, G. I.; Lebedev, V. N.; Mal'kov, V. V.; Bushuev, N. I. (Gosudarstvennyi Komitet po Ispol'zovaniyu Atomnoi Energii SSSR, Serpukhov. Institut Fiziki Vysokikh Energii). Translated by A. Golovanoff (CERN, Geneva, Switzerland), from report IFVE-ORZ-69-5. 44p. (In French). Dep.

The biological shielding for a proton fast-ejection system was calculated for an ejected proton beam with energy of 70 and 85 GeV and intensity of 10^{12} protons/cycle for a repetition rate of 8 cycles/min and proton efficiency of 100%. The shielding against the nuclear activity, the μ mesons, and residual activity of the target station were calculated. The arrangement of the biological shielding of the target station was discussed. (J.S.R.)

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USSR UDC 532.57+532.137+536.51+532.14.08+531.787

BUSHUYEV, V. A.

"Study of the Characteristics of Conical Nozzles Under Free Outflow and Perfect Compression of the Jet"

Tr. metrol. in-tov SSSR (Works of the Metrology Institutes of the USSR), 1972, No. 135(195), pp 177-181 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6B1127)

Translation: The technique and results of an experimental study of the effect of viscosity on the free flow characteristics of conical convergent nozzles at Reynolds numbers $4\cdot(10^3-10^5)$ are presented. Nozzles with an outlet diameter of ∿25 mm and different angles of the generatrices were tested. The experimental stand worked on a closed circuit with water-glycerine solutions and made it possible to measure the outflow, the outflow pressure, and the reaction of the outflowing jet directly. The measurements were used to determine the flow coefficient and the momentum coefficient. It was established that conical nozzles with an angle of the generatrix ∿28° exhibit the property of independence of the flow coefficient from the viscosity of the liquid for $R_H > 4\cdot10^3$. Authors abstract.

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USSR

UDC 532.525.095

BUSHUYEV, V. A.

"Study of Characteristics of Conical Nozzles with Free Exhaust and Complete Compression of a Stream"

Tr. Metrol. In-tov SSSR [Works of Metrology Institutes, USSR], 1972, No 135 (195), pp 177-181, (Translated from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, 1972, No 5, Abstract No 5.32.731).

Translation: The method and results are presented from an experimental study of the influence of viscosity on free flow characteristics of conical constricting nozzles with Reynolds numbers of $4 \cdot 10^3$-10^5. Nozzles were tested with output diameters of about 25 mm and various generatrix angles. The test stand operated in closed cycle with water-glycerine and solutions and allowed direct measurement of flow rate, exhaust pressure and reaction of the exhaust stream. The measurement data were used to determine the flow rate factor and momentum factor. It was established that conical nozzles with generatrix angles of about 28° have the property of independence of flow rate factor on fluid viscosity for $Re > 4 \cdot 10^3$. 3 Figures; 2 Biblio. Refs.

1/1

Biophysics

USSR

BUSHUYEV, V. N., VUL'FIUS, Ye. A., GAGLOYEV, V. N., GOLOVANOV, I. B., and CHEREMISIN, A. N., Institute of Biological Physics, Academy of Sciences USSR, Pushchino, Moskovskaya Oblast

"Physiologically Active Compounds. Correlation Between the Physiological Activity Data of Compounds and Their Molecular Spectroscopy. I. Nuclear Magnetic Resonance Spectra and Physiological Activity of Some Cholinomimetic Compounds"

Moscow, Biofizika, Vol 18, Vyp 2, Mar/Apr 73, pp 216-222

Abstract: The electron distribution (which was determined from NMR spectra) and biological activity of the following cholinomimetic (CM) compounds was correlated: acetylcholine chloride, acetylcholine bromide, acetylcholine iodide, acetylthiocholine bromide, acetylthiocholine iodide, propionylcholine iodide, propionylthiocholine iodide, butyrylcholine iodide, methacholine chloride, arecocarbaminoylcholine chloride, succincholine iodide, suberylcholine iodide, arecoline bromine hydrate, and methylfurmethide iodide. The obtained results indicated that all compounds of type R - CO - O - CH_2 - CH_2 - $\overset{+}{N}(CH_3)_3$ and suberylcholine iodide have practically identical shifts of the group - CH_2 - CH_2 - $\overset{+}{N}(CH_3)_3$ and their electronic distribution should be identical. Difference in

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USSR

BUSHUYEV, V. N., et al., Biofizika, Vol 18, Vyp 2, Mar/Apr 73, pp 216-222

their physiological activity are related to different interaction with cholinoreceptors. Models suggested by other authors regarding the muscarine and nicotine cholinoreceptors are discussed.

1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--THE EFFECT OF THE DESIGN OF THE REVERSING MECHANISM UPON THE PRECISION OF THE MANUFACTURE OF LARGE MODULE HERRINGBONE WHEELS -U-

AUTHOR--KUSHUYEV, V.V.

B

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, STANKI I INSTRUMENT, NO 2, 1970, PP 19-20

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--INDUSTRIAL PRODUCTION, MACHINERY MANUFACTURING PLANT, METAL CUTTING, METAL MACHINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/1739 STEP NO--UR/0121/70/000/002/0019/0020

CIRC ACCESSION NO--AP0114243
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0114243

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR CHANGING THE DIRECTION OF ROTATION OF THE CHUCK WITH A BLANK IN THE MACHINING OF LARGE MODULE HERRINGBONE WHEELS (M SMALLER THAN OR EQUAL TO 75 MM) BY END MILLING CUTTERS ON LARGE GEAR HOBBING MACHINES, VARIOUS REVERSING MECHANISMS ARE USED. IN SOME MECHANISMS THE REVERSAL OF CHUCK ROTATION DURING THE CUTTING PROCESS IS EFFECTED THEORETICALLY INSTANTANEOUSLY. THIS INVOLVES DIFFICULTIES DUE TO THE ACCOMPANYING OVERLOADS. THEREFORE IT IS EXPEDIENT TO USE A REVERSING MECHANISM WITH SMOOTH EXTINCTION OF THE ROTATION RATE OF THE BLANKS TO ZERO AND ITS GRADUAL INCREASE TO THE NOMINAL VALUE. A DISTINCTION MAY BE MADE BETWEEN MECHANISMS WITH INTERRUPTION OF THE CINEMATIC CHAIN AT THE MOMENT OF REVERSAL, AND WITHOUT INTERRUPTION. REVERSING MECHANISM WITH INTERRUPTION OF THE CINEMATIC CHAIN HAVE CERTAIN DRAWBACKS, WHICH ARE ENUMERATED. ON THE BASIS OF RESEARCH OF THE EFFECT OF THE REVERSING MECHANISM UPON THE PRECISION OF THE HERRINGBONE WHEEL, CONDUCTED WITH THE CUTTING OF WHEELS WITH A MODULE OF 24 MM FROM STEEL 45 ON A MODEL 5342 MACHINE UNDER CONSTANT CUTTING CONDITIONS, IT BECAME OBVIOUS THAT WITH THE USE OF MECHANISMS WITHOUT INTERRUPTION OF THE CINEMATIC CIRCUIT, MACHINING ERRORS DUE TO REVERSAL WOULD BE CONSIDERABLY LESS. A MECHANISM FOR ACCOMPLISHING SUCH REVERSAL IS PROPOSED, AND ITS OPERATION IS DESCRIBED.

UNCLASSIFIED

USSR UDC 576.851.49.077.5+576.851.49.097.29].01(571.5)

BUSHUYEVA, S. I., and BAYRYCHENKO, T. A., Irkutsk Institute of Epidemiology and Microbiology

"Comparative Phage- and Colicin-Type Characteristics of Typhoid and Paratyphoid B Strains Circulating in Eastern Siberia"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 5, May 71, pp 38-41

Abstract: A study was conducted of the phage- and colicin-type characteristics of 200 typhoid and 72 paratyphoid B strains isolated from patients and carriers in Eastern Siberia. According to their sensitivity spectra, typhoid bacilli were subdivided into 16 colicin types and paratyphoid bacilli into 14 colicin types. A comparison of the colicin types detected in the Eastern Siberia with those observed and described by other authors in the Ukraine and the Khabarovsk region revealed considerable differences in their geographic distribution. A second set of samples (23 typhoid and 21 paratyphoid cultures) obtained from the same individuals in various periods of the disease (1-21 days later) was colicin typed by the same method, and so were cultures which had been kept in the laboratory for 3-4 months. The results were consider-

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BUSHUYEVA, S. I., et al, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 5, May 71, pp 38-41

ably different from those obtained in the first test. The conclusion is drawn that sensitivity to colicins is an unstable property and that it therefore must be determined immediately after collection of samples.

2/2

Petroleum Processing Technology

USSR

UDC 662.749.75:543.872

BUSHUYEVA, Ye. M., and BESPOLOV, I. Ye., All Union Scientific Research Institute of Petroleum Products

"Effect of the Hydrocarbon Composition of Jet Fuels on Their Thermal Stability"

Moscow, Khimiya i Tekhnologiya Topliv i Masel, No 9, 1971, pp 46-49

Abstract: A source of sediment formation during oxidation of jet fuels, beside that of nonhydrocarbon compounds, consists of aromatic hydrocarbons, especially of the derivatives of naphtalene and polycyclic naphthenes; in comparison, alkyl derivatives of benzene form sediments to a much lesser degree. Paraffins and naphtenes found in jet fuels form no sediments. The structure of the non-aromatic components has a definite effect on the degree of coagulation of the oxidation products of aromatic hydrocarbons and hence on the quantity of sediment formed. Maximum quantity of a solid phase forms during oxidation of mixtures of aromatic and branched aliphatic hydrocarbons; minimal levels are formed during oxidation of their mixtures with bicyclic hydrocarbons (such as decaline). The quantity of solid phase formed is increased as the length of the side chain in the cyclic hydrocarbons in the mixture is increased. Thus,

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520001-9"

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BUSHUYEVA, Ye. M. and BESPOLOV, I. Ye., Khimiya i Tekhnologiya Topliv i Masel, No 9, 1971, pp 46-49

hydrocarbon fuels show high thermal stability when they contain no polycyclic naphthenes or aromatic hydrocarbons. In cases when the fuel mixture contains at least 30-40% of bicyclic hydrocarbons, limited amounts of monocyclic aromatic hydrocarbons may be tolerated -- up to 10-15%.

2/2

BUSHVILI L.L.

Acc. Nr: AP0043794 Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 2, pp 597-600

CONTRIBUTION TO THE THEORY OF SPIN-LATTICE RELAXATION IN CRYSTALS WITH PARAMAGNETIC IMPURITIES

N. S. Bendiashvili, L. L. Buishvili, M. D. Zviadadze

The effect of nonuniform EPR broadening on relaxation of nuclei in crystals with magnetic impurities is discussed. It is shown that the concentration dependence of the relaxation rate agrees with the experimental data.

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REEL/FRAME
19770203

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UDC 517.9

ALIMOV, A. L., BISLAYEV, V. S.

"On a Continuity Integral for a Second-Order Parabolic Equation"

Leningrad, Vestnik Leningradskogo Universiteta, No. 1, Jan 72, pp 5-14

Abstract: The Cauchy problem for the second-order parabolic equation

$$\frac{\partial u(x, t)}{\partial t} = (\nabla, a\nabla)u + (b, \nabla)u + vu, \quad x \in R^n, \quad t > 0, \qquad (1)$$

is discussed, where $a = a(x, t)$ is a matrix function of order n, $b = b(x, t)$ is a vector function, and $v = v(x, t)$ is a numerical function. $G(x, t|y, \tau)$ is used to denote Green's function of the Cauchy problem, and it is noted that the function G can be represented in the form of a continuity integral over a measure generated by the higher-order terms of equation (1). In the present paper the formula

$$G(x, t|y, \tau) = \lim_{m \to \infty} \int \dots \int dx_1 \dots dx_m \prod_{k=0}^{m} Q(x_{k+1}, t_{k+1}|x_k, t_k) \qquad (2),$$

which was previously obtained only for higher coefficients of equation (1)

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ALIMOV, A. L., BUSLAYEV, V. S., Vestnik Leningradskogo Universiteta, No. 1, Jan 72, pp 5-14

independent of x since it was essentially equivalent to the traditional representation and in which the kernels Q are defined by various explicit expressions, is generalized to the case of variable coefficients a. It is shown that there is strong convergence of the operator defined by the kernel from the right side of (2) to the resolvent operator of the Cauchy problem for equation (1). The expressions thus arising are written in a convenient fashion using the terminology of Riemann space.

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1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CHARACTERISTIC PROPERTY OF WEYL QUANTIZATION -U-

B

AUTHOR-(02)-BUSLAYEV, V.S., SKRIGANOV, M.M.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 2, NR 3, PP 292-296

DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--MATHEMATIC SPACE, MAPPING, QUANTUM THEORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/2034 STEP NO--UR/0646/70/002/003/0292/0296

CIRC ACCESSION NO--AP0102063

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0102063

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDITION IS FOUND UNDER WHICH THE LINEAR CONTINUOUS MAPPING W SUB(1): L SUB2 (M) YIELDS L PRIME NEGATIVE SUB2 (H), WHERE L SUB2 (M) IS THE SPACE OF GENERALIZED FUNCTIONALS ON THE PHASE SPACE M AND L SUB2 (H) IS THE SET OF GILBERT SCHMIDT OPERATORS ON THE FOCK SPACE H, DIFFERS FROM THE WEYL QUANTIZATION BY THE NUMERICAL FACTOR ONLY.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--WAVE OPERATORS FOR THE SCHRODINGER EQUATION WITH SLOWLY DECREASING POTENTIAL -U-

AUTHOR-(02)-BUSLAYEV, V.S., MATVEYEV, V.B.

B

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 2, NR 3, PP 367-376

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATHEMATICAL SCIENCES

TOPIC TAGS--SCHROEDINGER EQUATION, WAVE FUNCTION, MATHEMATIC OPERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/2025 STEP NO--UR/0646/70/002/003/0367/0376

CIRC ACCESSION NO--AP0102054

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0102054

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SPACE L SUB2 (R PRIMEN) THE ENERGY OPERATOR IS CONSIDERED, WHICH HAS THE FORM H SUBQ EQUALS MINUS 1 OVER 2M DELTA PLUS Q (X) WITH THE FUNCTION Q (X) DECREASING AS MAGNITUDE OF X PRIME NEGATIVEA, A IS GREATER THAN 0 FOR MAGNITUDE OF X YIELDS INFINITY. THE EXISTENCE OF GENERALIZED WAVE OPERATORS W SUB PLUS OR MINUS (H SUBQ, H SUB0) EQUALS 8-LIM EXP (ITH SUBQ) EXP (ITH SUB0) U SUBQ (T) IS PROVED BY MEANS OF INTRODUCING A "REGULARIZING" OPERATOR U SUBQ (T).

UNCLASSIFIED

USSR

UDC 546.776'21'131:04+546.786'21'131.04

PODZOLKO, Yu. G., KUZNETSOVA, A. A., YANKINA, L. F., and BUSLAYEV, Yu. A., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Interaction of the Oxochlorides of Molybdenum (VI) and Tungsten (VI) with Methylphosphonic Acid"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 18, No 5, May 73, pp 1255-1259

Abstract: By the interaction of MoO_2Cl_2 and WO_2Cl_2 with methylphosphonic acid $MeP(O)(OH)_2$, compounds with the composition $MO_2ClOP(O)(Me)OH$ (I), $MO_2/OP(O)(Me)OH/_2$ (II), and $MO_2O_2P(O)(Me)$ (III) were prepared, where M = Mo, W. Pyrolysis of the acidic salts II at 200° led to the pyrosalts $MO_2/OP(O)(Me)/_2O$ (IV). IR spectroscopy indicated that II and III were polymers with .... MOMOM .... linkages, similarly to the initial oxochlorides, while IV contained isolated MO groups and also POP groups that were absent in II and III. III and IV apparently contained phosphonate links. Structural formulas for II, III, and IV are proposed (figure).

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USSR

UDC 546.77[illegible]-386

BUSLAYEV, Yu. A., [illegible], A. A., YAKHINA, L. F., and ZAKHAROVA, I. A., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Polyphosphinates of Oxomolybdenum (V)"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 2, Feb 72, pp 415-419

Abstract: Upon reaction of $MoOCl_3$ with diphenylphosphinic acid $HOPOPh_2$, polyphosphinates of oxomolybdenum with the composition $MoOCl_2 \cdot (PO_2Ph_2)$ (I) and $MoOCl(PO_2Ph_2)_2$ (II) formed, which had the structure of polymers with phosphinate bridges and isolated molybdenum-oxygen bonds. On reaction with EtOH, I and II were converted into the dioxomolybdenum phosphinate $MoO_2(PO_2Ph_2)$ (III). I reacted with EtOH more readily than II. With an increasing degree of replacement of phosphinate groups with Cl atoms (I vs. II) and of Cl with O atoms (III vs. I), the degree of polymerization of the phosphinate in $CHCl_3$ solutions increased.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520001-9"

USSR UDC 546.833.181.1'131

GLUSHKOVA, M. A., YERSHOVA, M. M., OVCHINNIKOVA, N. A., and BUSLAYEV, YU. A., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSSR

"Study of Some Reactions Using Phosphine Derivatives of Niobium and Tantalum Pentachlorides"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 1, Jan 72, pp 147-149

Abstract: Synthesis of the $MCl_5 \cdot R_3P$ type compounds (M= Nb, Ta; R= Bu, Ph) was carried out in CCl_4, using a 1:1 ratio of starting components. Solutions of Ph_3P in CCl_4 or Bu_3P in benzene were added dropwise to a saturated solution of MCl_5 in CCl_4. Orange $NbCl_5$ and yellow $TaCl_5$ formed and precipitated during the addition. After 12 hours, solid was separated by decantation, washed with CCl_4 and dried yielding $MCl_5 \cdot R_3P$ -- powdery products, soluble in CCl_4 and C_6H_6. The tantalum products melted higher than the niobium derivatives. When heated above 300°C they decomposed. $MCl_5 \cdot R_3P$ reacted with ethanol yielding $MCl_3(OC_2H_5)_2Ph_3P$. When dry ammonia was passed through a benzene solution of

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GLUCHKOVA, M. A., et al., Zhurnal Neorganicheskoy Khimii, Vol 17, No 1, Jan 72, pp 147-149

$MCl_3.R_3P$, the products formed were $NbCl_5.6NH_3.0.5C_6H_6$ and $TaCl_5.7NH_3.0.5C_6H_6$.

Study of the thermal behavior of $NbCl_5 \cdot Bu_3P$ in argon showed that roentgeno-amorphous niobium phosphine chloride — $NbPCl_2$ -- is formed at 475°C, exhibiting plastic properties.

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USSR

UDC 546.78 + 546.131

KUZNETSOVA, A. A., BUSLAYEV, YU. A., GORYACHOVA, L. F., and PODZOLKO, YU. G., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Tungsten Analog of Phosphonitrile Chloride and Some of Its Properties"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 463-465

Abstract: The authors undertook to synthesize the tungsten analog of phosphonitrile chloride and to study reactions of this compound with diethylamine, liquid ammonia, water and ethanol. The procedure used for the synthesis of tungsten nitrile chloride was similar to that used previously for the preparation of $NbNCl_2$ and $TaNCl_2$. The resultant tungsten analog was of the composition $WNCl_2$. The IR spectrum of $WNCl_2$ reveals a wide absorption band in the 1000-500 cm^{-1} region, indicating the presence of "endless" chains -WNWNWN- in the compound. A

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KUZNETSOVA, A. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 463-465

study of the pyrolysis of $WNCl_2$ showed that the compound is stable to 340° in air and to 450° in an argon atmosphere. A study of reactions of $WNCl_2$ with liquid ammonia, diethylamine, ethanol and water showed that, like phosphonitrile chloride, the compound readily undergoes solvolysis with displacement of the chlorine atom by various groups. There are no changes in the tungsten-nitrogen bridge bonds.

2/2

B

Uranium Compounds

USSR

DAVIDOVICH, R. L., Corresponding Member, Academy of Sciences USSR, and SLAVIN, Yu. A., Department of Chemistry of the Far Eastern Branch imeni V. L. Komarov, Siberian Department of the Academy of Sciences USSR, and Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Moscow, Academy of Sciences USSR

"Solvolytic Reactions of Complex Fluorouranylates"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 2, 11 Mar 70, pp 355-357

Abstract: Uranofluorida, UO_2F_2, in combination with fluorides of alkaline metals and ammonium forms complex compounds, some of which undergo decomposition during recrystallization from solutions. When $M_3UO_2F_5$ (M=K, Rb, Cs, NH_4), is dissolved in water, there is decomposition with separation of the fluoride of the alkaline metal. The reaction is not due to hydrolysis; it is the result of interaction of the fluoride ion with molecules of water, with the formation of hydrogen bonds during dissociation of the complex anion in solution. The authors present a simple method for the synthesis of the compounds $M(UO_2)_2F_5$ (M=K, Rb, Cs) by recrystallizing $M_3UO_2F_5$ in a 40% HF solution.

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1/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SOLVOLYTIC REACTIONS OF COMPLEX URANYL FLUORIDES -U-

AUTHOR-(02)-DAVIDOVICH, R.L., BUSLAYEV, YU.A.

B

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 355-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--X RAY ANALYSIS, IR SPECTRUM, SPECTROSCOPIC ANALYSIS, CRYSTALLIZATION, FLUORIDE, URANIUM COMPOUND, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1274 STEP NO--UR/0020/70/191/002/0355/0357

CIRC ACCESSION NO--AT0128688

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0128688

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BEHAVIOR OF COMPLEX URANYL FLUORIDES WAS STUDIED IN HF SOLNS. BY DISSOLVING SAMPLES OF SALTS M SUB3 UO SUB2 F SUB4 (M EQUALS K, RB, CS), M SUB2 UO SUB2 F SUB4 .H SUB2 O (M EQUALS RB, CS), AND K SUB5 (UO SUB2) SUB2 F SUB9 IN AN EXCESS OF 40PERCENT HF WITH HEATING. THE SOLNS. WERE EVAPD. TO OBTAIN PPT. CHEM. ANAL. SHOWED THAT COMPDS. HAVING THE GENERAL FORMULA M(UO SUB2) SUB2 F SUB5 (M EQUALS K. RB, CS) ARE FORMED. UNDER THE SAME CONDITIONS THE NH SUB4 PRIME POSITIVE URANYL FLUORIDES LOSE FEWER NH SUB4 F MOLS. THAN THE ALKALI METAL URANYL FLUORIDES DO THE RESP. SIMPLE FLUORIDE MOLS. THE INDIVIDUALITY OF THE ((UO SUB2) SUB2 F SUB5) PRIME NEGATIVE OF K, RB, AND CS WAS CONFIRMED BY X RAY AND IR SPECTROSCOPY. A SIMPLE METHOD IS SUGGESTED FOR PREPG. COMPDS. HAVING THE COMPN. M(UO SUB2) SUB2 F SUB5 BASED ON THE RECRYSTN. OF M SUB3 UO SUB2 F SUB5 FROM A 40PERCENT SOLN. OF HF. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SYNTHESIS AND X RAY DIFFRACTION CHARACTERISTICS OF FLUORZIRCONATES OF DIVALENT METALS -U-

AUTHOR-(04)-CAVIDOVICH, R.L., LEVCHISHINA, I.F., KAYDALOVA, T.A., BUSLAEV, YU.A.

COUNTRY OF INFO--USSR

B

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 493-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, COMPLEX COMPOUND, FLUORIDE, ZIRCONATE, CADMIUM COMPOUND, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1886 STEP NO--UR/0363/70/006/003/0493/0497

CIRC ACCESSION NO--AP0115705

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSICN NO--AP0115705
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDITIONS WERE INVESTIGATED FOR SYNTHESIZING INDIVIDUAL COMPLEX ZR FLUORIDES WITH BIVALENT MTALS AND THE X RAY DIFFRACTION CHARACTERISTICS FOR THE SALTS PREPD. ARE PRESENTED. THE STUDY OF THE INTERACTION BETWEEN THE FLUORIDES OF THE BIVALENT TRANSITION METALS AND THE ZRO SUB2 SOLN. IN HF SHOWED THAT SALTS OF ZRF SUB6 PRIME2 NEGATIVE FORM AT THE MOLAR RATIO EQUAL TO 1:1. THE ONLY COMPD. WHICH IT WAS NOT POSSIBLE TO SYNTHESIZE WAS CO SUB2 ZRF SUB8.6H SUB2 O. ALL SYNTHESIZED HEXAFLUOROZIRCONATES ARE SOL. IN WATER. THE PRESENCE OF A LARGE EXCESS OF THE HF PREVENTS THE FORMATION OF THE OCTAFLUORO SALT. X RAY DIFFRACTION STUDIES SHOW THAT A LARGE ISOSTRUCTURAL SERIES OF THE COMPLEXES IS FORMED. THE UNIT CELL PARAMETERS OF COMPLEX FLUORIDES OF THE COMPN. MZRF SUB6.6H SUB2 O WERE DETD.; THE LATTER ARE ISOSTRUCTURAL WITH FESIF SUB6 TIMES 6H SUB2 O. ALSO, THE SYNTHESIZED OCTAFLUOROZIRCONATES OF THE BIVALENT METALS ARE INDIVIDUAL CHEM. COMPDS. THE X RAY DIFFRACTION PATTERNS FOR M SUB2 ZRF SUB8.12H SUB2 O DIFFER FROM THOSE FOR THE HEXAFLUOROZIRCONATES AND FOR THE CORRESPONDING FLUORIDES OF THE BIVALENT METALS. FACILITY: OTD. KHIM. DAL'NEVOST. FILIALA IM. KOMAROVA, VLADIVOSTOK, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--COMPLEXING OF TANTALUM PENTAFLUORIDE IN SOLUTIONS STUDIED BY A FLUORINE-19 NMR METHOD -U-

AUTHOR-(02)-BUSLAYEV, YU.A., ILIN, YE.G.

B

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1351-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TANTALUM-COMPOUND, FLUORIDE, FLUORINE ISOTOPE, NMR SPECTRM, ACETONITRILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1589 STEP NO--UR/0020/70/190/006/1351/1353

CIRC ACCESSION NO--AT0116997

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520001-9"

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AT0116997
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TAF SUB5 WAS STUDIED BY NMR ANAL. OF PRIME19 F IN SOLN. OF MECN IN THE PRESENCE OF VARIOUS LIGANDS: H SUB2 O, ME SUB2 SO, HCONME SUB2, ALC., AND AQ. H SUB2 O SUB2. THE NMR SPECTRA ARE DESCRIBED. IN ALL CASES STUDIED OF COMPLEXES OF THE FORM (TAF SUB5.L), THE SIGNAL FROM THE AXIAL F ATOM LIES AT HIGHER FIELD IN RELATION TO THE SIGNAL FROM THE EQUATORIAL F ATOMS. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/3 027 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TUNGSTEN ANALOG OF PHOSPHONITRILE CHLORIDE AND SOME OF ITS PROPERTIES -U-

AUTHOR-(04)-KUZNETSOVA, A.A., BUSLAYEV, YU.A., GORVACHOVA, L.F., POD2OLKO, YU.G.

COUNTRY OF INFO--USSR

B

SOURCE--IZ. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 463-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TUNGSTEN, CHLORIDE, IR SPECTRUM, PHOSPHONITRILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1500 STEP NO--UR/0062/70/000/002/0463/0465

CIRC ACCESSION NO--AP0120284

UNCLASSIFIED

2/3 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120284

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A 1:3 MIXT. OF WCL SUB5 AND NH SUB4 CL IN A QUARTZ TUBE CONNECTED TO AN ABSORBER WITH METHYL RED SOLN. FOR DETECTION OF HCL AND KI SOLN. FOR DETECTION OF ANY CL, WAS COVERED WITH EXCESS NH SUB4 CL AND THE MIXT. UNDER AR ATM. WAS SLOWLY HEATED TO 180DEGREES, WHEN HCL FORMATION BEGAN. WHEN THE MIXT. BECAME DARK BROWN, IT WAS HEATED TO 250DEGREES TO EXPEL NH SUB4 CL, LEAVING BEHIND WNCL SUB2, BROWN SOLID, INSOL. IN ALL ORG. SOLVENTS. IT GAVE AN IR BAND AT 500-1000 CM PRIME NEGATIVE1 CAUSED BY W-N VIBRATIONS IN A NWNW CHAIN. HEATED IN AIR IT DECOMPD. AT 340DEGREES WITH SUBSEQUENT OXIDN. TO WO SUB3. PYROLYSIS IN AR ATM. BEGAN AT 450DEGREES. THE THERMAL STABILITY OF WNCL SUB2 WAS SIMILAR TO ITS NB ANALOG. TREATED WITH H SUB2 O THE SUBSTANCE IN POWD. FORM HYDROLYZED EVEN AT ROOM TEMP. AT W-CL BONDS AND GAVE WN(OH) SUB2.2H SUB2 O. NO NOTICEABLE REACTION WITH ETOH TOOK PLACE AT ROOM TEMP. BUT ON HEATING A GREY BLUE COLOR DEVELOPED AS A RESULT OF FORMATION OF WN(OE) SUB2. LIQ. NH SUB3 USED IN CONTINUOUS EXTN. OF WNCL SUB2 FOR 1 HR GAVE WN(NH SUB2) CL.NH SUB3, BROWN SOLID, INSOL. IN USUAL SOLVENTS, AND WITH IR SPECTRUM CONTG. BANDS AT 1289 CM PRIME NEGATIVE1 AND 1600 CM PRIME NEGATIVE1 FROM DEFORMATION OF COMPLEXED HN SUB3, AS WELL AS 500-1000 CM PRIME NEGATIVE1 BAND OF THE W-N BOND VIBRATIONS. WNCL SUB2 AND ET SUB2 NH IN CHCL SUB3 REACTED READILY AND GAVE WN(NET SUB2) CL, ALSO INSOL. AND WITH A WIDE BAND IN 500-1000 CM PRIME NEGATIVE1 REGION IN ITS IR SPECTRUM.

UNCLASSIFIED

3/3 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120284

ABSTRACT/EXTRACT--WN-(NH SUB2) CL.NH SUB3 AND WN(NET SUB2) CL WERE RATHER STABLE IN TERMS OF HYDROLYSIS IN CONTACT WITH AIR BUT IN H SUB2 O THEY HYDROLYZED RAPIDLY TO WN(OH) SUB2.H SUB2 O; ETOH SIMILARLY GAVE WN(OET) SUB2. FACILITY: INST. OBSCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--NITROSYL DERIVATIVES OF NIOBIUM AND TANTALUM -U-

AUTHOR-(04)-BUSLAYEV, YU.A., GLUSHKOVA, M.A., YERSHOVA, M.M., OYCHINNIKOVA, N.A.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 474-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NIOBIUM, TANTALUM, IR SPECTRUM, CHLORIDE, NITROSYL CHLORIDE, AMORPHOUS MATERIAL, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1520 STEP NO--UR/0062/70/000/002/0474/0475

CIRC ACCESSION NO--AP0120301
UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--23OCT7(

CIRC ACCESSION NO--AP0120301

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING DRY NO INTO A SOLN. OF METAL CHLORIDE IN C SUB6 H SUB6 (PREPD. OVERNIGHT BY LEACHING) GAVE BROWN COMPLEXES: NBCL SUB5 .NO AND TACL SUB5 .NO.C SUB6 H SUB6. THESE PROVED TO BE AMORPHOUS IN X RAY ANAL. THE IR SPECTRA HAVE BANDS IN THE 1480 CM PRIME NEGATIVE1 AND 1990 CM PRIME NEGATIVE1 REGIONS, CAUSED BY NO BOND VIBRATIONS. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--REACTION OF MOLYBDENUM (V) OXOTRICHLORIDE WITH SOME ALIPHATIC AMINES -U-

AUTHOR-(03)-KUZNETSOVA, A.A., GORYACHOVA, L.F., BUSLAYEV, YU.A.

COUNTRY OF INFO--USSR

B

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 509-13

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLYBDENUM COMPOUND, CHLORIDE, ALIPHATIC AMINE, COMPLEX COMPOUND, SOLVENT ACTION, POLYMER, PYROLYSIS, THERMAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1976 STEP NO--UR/0062/70/000/003/0509/0513

CIRC ACCESSION NO--AP0123757

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123757

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF MOOCL SUB3 WITH R SUB3 N, WHERE R IS H, ME, OR ET, INVOLVES, IN THE CASE OF PRIMARY AND SECONDARY AMINES, A SOLVOLYSIS REACTION AT THE MO-CL BOND, WHILE TERTIARY AMINES GAVE 1:1 COMPLEXES. THE IR SPECTRA OF THE REACTION PRODUCTS WITH RNH SUB2 AND R SUB2 NH SHOWED THESE TO BE POLYMERIC WITH MOOMOO CHAINS. PYROLYSIS OF ALL THE PRODUCTS AT 500-600DEGREES GAVE MOO SUB2 IN VACUO OR UNDER INERT ATM. THE FOLLOWING WERE ISOLATED: MOOCL SUB2 NHET, BLACK SOLID; MEOCL SUB2 NME SUB2, A SOLID; MOOCL(NET SUB2) SUB2, A SOLID; MOOCL SUB3.NME SUB3, YELLOW SOLID; MOOCL SUB3.ET SUB3 N, YELLOW. IN AIR ALL THESE COMPDS. DECOMPD. AT 300-400DEGREES TO MO OXIDE. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr. AP0048804 Abstracting Service: CHEMICAL ABST. 4/70 Ref. Code UR0078

BUSLAYEV YuA

90584g Synthesis of fluoro- and ethoxyfluoro derivatives of diethyltin. Kokunov, Yu. V.; Buslaev, Yu. A. (USSR). *Zh. Neorg. Khim.* 1970, 15(1), 280–1 (Russ). Reaction of Et_2SnCl_2 in MeOH with KF gave Et_2SnF_2 (I). Analogous reaction with NaOEt gave $Et_2Sn(OEt)_2$ (II). Reaction of I with II in anhyd. EtOH gave $Et_2SnF(OEt)$ (III). III has (Sn-F) at 445 cm^{-1}. Chem. shifts of II and III are tabulated. HMJR

REEL/FRAME
19800567

USSR

UDC: 535.853.4

BUSLAYEVA, V. Ye., ETSIN, I. Sh., All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev

"A Multibeam Interferometer With Crystal Plate"

Leningrad, Issledovaniya v Oblasti Opticheskikh i Svetovykh Izmereniy, Trudy Metrologicheskikh Institutov SSSR, No 114(174), 1970, pp 66-71

Abstract: A theoretical study of the feasibility of using an interferometer made up of a crystal plate and two semitransparent mirrors for precise measurement of small displacements. An expression is found for the distribution of intensity in the interference pattern in the case where the interferometer is located between two polarization prisms. Bands of equal thickness are expreimentally studied. An increase in the sharpness of the bands was observed as a result of interference between the ordinary and extraordinary beams. It is shown that the interferometer can be used in a precision installation for measuring small linear displacements. Three figures, bibliography of five titles.

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USSR

UDC: 519.2

BUSLENKO, N. P., KALASHNIKOV, V. V., KOVALENKO, I. N.

"Lectures on the Theory of Complex Systems"

Moscow, Lektsii po teorii slozhnykh sistem (cf. English above), "Sov. radio", 1973, 439 pp, ill. 2 r. 7 k. (from RZh-Kibernetika, No 5, May 73, abstract No 5V277 K [annotation])

Translation: The book attempts to give a unified viewpoint in presentation of problems of constructing mathematical models, quantitative and qualitative analysis of such models for a class of objects which generalizes the types of complex systems most extensively used in technology and the national economy.

The introductory chapters (1-3) discuss the idea of a complex system, its functional process, and also the functional characteristics and indices utilized in the design and operation of complex systems. Chapters 4-8 and 16 give an idea of present schemes of mathematical description of complex systems and their modeling. The remaining chapters of the book present some methods of quantitative and qualitative analysis of complex systems,

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USSR

BUSLENKO, N. P. et al., Lektsii po teorii slozhnykh sistem, Moscow, "Sov. radio", 1973

investigate transient and steady-state conditions of operation of various structural types of systems, and also deal with questions of stability and estimates of their characteristics with respect to experimental data. The book is written for scientists, engineers, graduate students and upperclassmen working in the field of systems analysis and development of automated control systems.

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1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EFFECT OF P TOLUALDEHYDE ON THE LIQUID PHASE OXIDATION OF P XYLENE IN THE PRESENCE OF COBALT SALTS -U-

AUTHOR-(05)-ARIKO, N.G., MITSKEVICH, N.I., LASHITSKIY, V.A., BUSLOVA, M.K., KOVALKOV, M.D.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 48-53

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALDEHYDE, OXIDATION, XYLENE, COBALT COMPOUND, CARBON DIOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1886 STEP NO--UR/0204/70/010/001/0048/0053

CIRC ACCESSION NO--AP0112866

UNCLASSIFIED

2/2 015 UNCLASSIFIED

CIRC ACCESSION NO--AP0112866 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF 4.5-10.5 MOLE PERCENT P TOLUALDEHYDE INCREASED THE RATE OF OXIDN. AT 120DEGREES OF P XYLENE CONTG. 2 TIMES 10 PRIME NEGATIVE3 MOLE-L. CO STEARATE. AS THE AMT. OF ALDEHYDE WAS INCREASED, EVOLVED CO SUB2 INCREASED LINEARLY, ALDEHYDE CONTENT REMAINED CONST., AND ACID AND ETHER FORMATION INCREASED UP TO 0.58 MOLE-L. ALDEHYDE ADDED, AND REMAINED CONST. THEREAFTER. TAGGED ALDEHYDE EXPTS. SHOWED THAT CO SUB2 EVOLUTION OCCURRED BY DECOMPN. OF PERTOLUIC ACID FORMED BY OXIDN. OF THE ALDEHYDE. USE OF BZH UNDER THE SAME CONDITIONS ALSO GAVE AN INCREASE IN RATE OF FORMATION OF P TOLUIC ACID AND CO SUB2; THE FORMER BECAME CONST. AT 0.2 MOLE-L. ALDEHYDE, THE LATTER AT 0.4. FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--LABORATORY CONTROL OF THE USE OF TOXIC CHEMICALS AND METHODS OF IMPROVING THIS CONTROL IN BELORUSSIA -U-
AUTHOR-(04)-ADAMOVICH, YE.L., BUSLOVICH, S.YU., VYATCHANNIKOV, K.A., PAROMCHIK, YE.I.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GIGYENA I SANITARIYA, NO 1, 1970, PP 100-101

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FOOD ANALYSIS, TOXICITY, CHEMICAL AGENT DECONTAMINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605014/D08 STEP NO--UR/0240/70/000/001/0100/0101

CIRC ACCESSION NO--AP0140498
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140498

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONTENT OF TOXIC CHEMICALS IN FOOD PRODUCTS HAS BEEN STEADILY INCREASING SINCE 1964. THE PRESENCE OF SUCH RESIDUES IN AMOUNTS ABOVE MAXIMUM PERMISSIBLE LIMITS IS DUE TO VIOLATION OF THE REGULATIONS GOVERNING THE USE OF COMPOUNDS. SINCE ONLY A SMALL NUMBER OF FOOD PRODUCTS CAN BE ANALYZED, THE LABORATORIES TRY TO MONITOR THE TIMES AND CONDITIONS OF APPLICATION OF THE CHEMICALS. INTRODUCTION OF A SYSTEM OF CERTIFICATION OF FINISHED FOOD PRODUCTS IS PROPOSED. THE FOOD PRODUCTS WOULD BE LABELED, SHOWING THE NAMES OF THE CHEMICALS USED IN GROWING THEM, DATES AND METHODS OF APPLICATION. INSPECTION AGENCIES WOULD CHECK ON COMPLIANCE WITH THE CERTIFICATION PROCEDURE, WHILE THE LABORATORIES WOULD MAKE SPOT CHECKS WHEN THE DATA ON THE CERTIFICATES SUGGESTED A POSSIBLE VIOLATION OF THE RULES FOR PROPER USE OF PESTICIDES, HERBICIDES, ETC. FACILITY: BELORUSSIAN SCIENTIFIC RESEARCH SANITARY HYGIENIC INSTITUTE.

UNCLASSIFIED

USSR UDC 614.37:632.95(476)

ADAMOVICH, YE. L., BUSLOVICH, S. YU., VYATCHANNIKOV, K. A., and PAROMCHIK, YE. I., Belorussian Scientific Research Sanitary-Hygienic Institute

"Laboratory Control of the Use of Toxic Chemicals and Methods of Improving This Control in Belorussia"

Moscow, Gigyena i Sanitariya, No 1, 1970, pp 100-101

Abstract: The content of toxic chemicals in food products has been steadily increasing since 1964. The presence of such residues in amounts above maximum permissible limits is due to violation of the regulations governing the use of compounds. Since only a small number of food products can be analyzed, the laboratories try to monitor the times and conditions of application of the chemicals. Introduction of a system of certification of finished food products is proposed. The food products would be labeled, showing the names of the chemicals used in growing them, dates and methods of application. Inspection agencies would check on compliance with the certification procedure, while the laboratories would make spot checks when the data on the certificates suggested a possible violation of the rules for proper use of pesticides, herbicides, etc.

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UDC 616.981.455-036.2(571.6)
JPRS 49948

SHAPIRO, S. Ye., BUSOYEDOVA, N. M., and POGORELOV, M. Ye., Clinic of Infectious Diseases, Khabarovsk Medical Institute, and Khabarovsk Plague-Control Station

"Some Results of Tularemia Studies in the Soviet Far East"

Moscow, Sovetskaya Meditsina, No 11, pp 98-101

Abstract: Sporadic cases of tularemia were reported in the mid-1950s in the Khabarovsk region of the Soviet Union. Several investigations since then have confirmed that these cases were not accidental. Isolation of tularemia bacteria from ticks, serologic studies, and detection of numerous cases of the disease throughout the 1960s using improved diagnostic methods led to the conclusion that the Khabarovsk region is part of an extensive natural tularemia focus embracing Eastern Siberia, Yakutia, the Maritime Province, and Sakhalin. Further research will probably confirm the existence of local tularemia on Kamchatka and natural foci of the infection in Amur and Magadan Oblasts, on the Kuril Islands, and elsewhere in the Far East.

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